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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,656	10/01/2003	Ronald S. Cok	87021THC	8977

7590 11/15/2006

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EXAMINER	
HON, SOW FUN	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,656	COK, RONALD S.	
	Examiner	Art Unit	
	Sow-Fun Hon	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *25-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Rejections Withdrawn

1. The 35 U.S.C. 112, 2nd paragraph rejection of claim 22 is withdrawn due to Applicant's amendment dated 08/21/06.

Rejections Repeated

2. The 35 U.S.C. 103(a) rejection of claims 1, 3, 5-9, 22 over Glatkowski, as evidenced by Ohtsu, are repeated for the same reasons previously of record in the Office action dated 05/17/06.

3. The 35 U.S.C. 103(a) rejection of claims 2, 4, 10, 20 over Glatkowski in view of Ohtsu, are repeated for the same reasons previously of record in the Office action dated 11/29/05.

4. The 35 U.S.C. 103(a) rejection of claims 11-13, 19 over Glatkowski in view of Ohtsu and Chung, are repeated for the same reasons previously of record in the Office action dated 11/29/05.

5. The 35 U.S.C. 103(a) rejection of claims 14-15, 17 over Glatkowski in view of Ohtsu, Chung and Jones, are repeated for the same reasons previously of record in the Office action dated 11/29/05.

6. The 35 U.S.C. 103(a) rejection of claims 16, 18, 21, 23 over Glatkowski in view of Ohtsu, Chung, Jones and Boronson, are repeated for the same reasons previously of record in the Office action dated 11/29/05.

7. The 35 U.S.C. 103(a) rejection of claim 24 over Glatkowski in view of Ohtsu, Chung, Jones and Yamada (US 5,583,675), are repeated for the same reasons previously of record in the Office action dated 11/29/05.

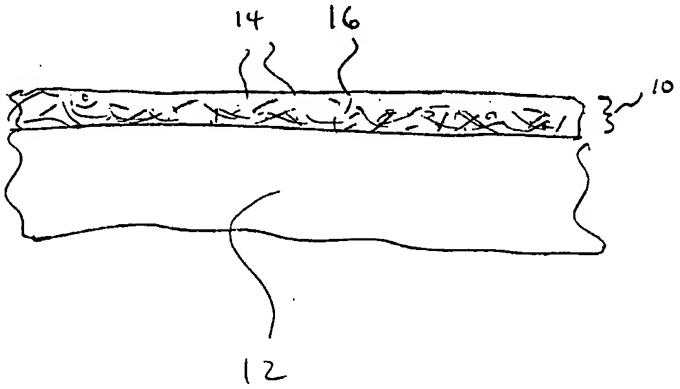
Response to Arguments

8. Applicant's arguments regarding the valid use of Glatkowski as the primary reference, have been fully considered but they are not persuasive.

9. Applicant argues that the reference to filters or polarizers made by Glatkowski, is only made with respect to a plurality of differentially-oriented nanotube film layers wherein each layer can be oriented and adjusted, rather than to a filter comprising a layer of nanotubes covered by a layer of polymeric resin binder, since there is no teaching or suggestion that the use of a polymeric overcoat as referenced at page 13, lines 16-17, has any relationship to the embodiment of a filter or a polarizer at page 14, lines 23-24.

Applicant is respectfully apprised that Glatkowski teaches on page 14, that each nanotube film layer, where the nanotubes are preferably oriented in the plane of the film, forms a filter or polarizer, in light of the citation "a plurality of differentially-oriented nanotube film layers wherein each layer can be oriented and adjusted, thus forming filters or polarizers" (page 14, lines 19-24), where the layers, filters and polarizers are all cited in the plural form. Glatkowski teaches on page 13, regarding the nanotube films, that the nanotubes may be dispersed substantially homogeneously throughout the polymeric material, but can also be present in a gradient fashion, or alternatively

dispersed as an internal layer (page 13, lines 10-15), which is consistent with the single embodiment in Applicant's specification, Fig. 1, shown below, wherein the carbon nanotube conductors 14 are actually dispersed in the polymeric resin binder 16, but is described by Applicant as a layer of carbon nanotube conductors 14 being covered by a colored polymeric resin binder 16 to hold the carbon nanotube conductors 14 in place and to protect them (page 3, lines 24-30).

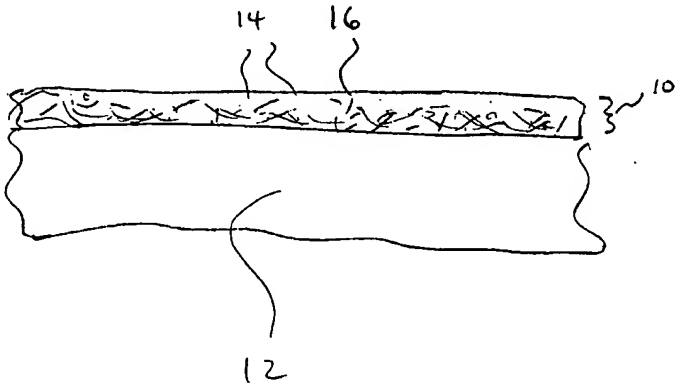


Glatkowski teaches that the film containing nanotube dispersions (page 14, lines 25-27) may further comprise a polymeric material and a coloring agent (page 15, lines 1-6), and that the nanotube films themselves may be overcoated with a polymeric material (page 13, lines 16-17). As taught by Glatkowski, the presence of the nanotube conductors in the film provides a conductive filter (page 14, lines 19-24), and when combined with the presence of a coloring agent in the film, a conductive color filter is formed.

10. Applicant argues that the reference by Glatkowski to coloring agents is made only within the context of additional optional materials that may be incorporated in a

nanotube dispersion suitable for forming the conductive nanotubes coating itself, rather than a polymeric resin layer coated over the nanotube layer.

Applicant is respectfully apprised that the single embodiment in Applicant's specification, Fig. 1, shown below, wherein the carbon nanotube conductors 14 are actually dispersed in the polymeric resin binder 16, is described by Applicant as a layer of carbon nanotube conductors 14 being covered by a colored polymeric resin binder 16 to hold the carbon nanotube conductors 14 in place and to protect them (page 3, lines 24-30). Applicant may be his or her own lexicographer so long as the meaning of the words in the claims is sufficiently clear in context of the specification and drawings. See MPEP 2111.01.



11. Applicant argues that while Ohtsu does disclose a method of making a conductive color filter, Ohtsu teaches the manufacture of the color filter by employing an electrodeposition process for the deposition of a conductive electrodeposition material containing a coloring material upon a photoconductive thin film, so that Ohtsu does not

teach forming the conductive color filter by separately depositing a layer of a conductive material followed by a layer of colored resin coated thereon.

Applicant is respectfully apprised that even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113. In the instant case, Glatkowski, the primary reference, teaches that the nanotubes may be dispersed substantially homogeneously throughout the polymeric material, but can also be present in a gradient fashion, or alternatively dispersed as an internal layer (page 13, lines 10-15), consistent with the single embodiment in Applicant's specification, Fig. 1, wherein the carbon nanotube conductors 14 are actually shown as being dispersed in the polymeric resin binder 16, is described by Applicant as a layer of carbon nanotube conductors 14 being covered by a colored polymeric resin binder 16 to hold the carbon nanotube conductors 14 in place and to protect them (page 3, lines 24-30). Glatkowski teaches that the polymeric resin binder can be colored (coloring agent, binder, page 15, lines 5-6). Ohtsu, the secondary reference, is merely evidence that it would have been obvious to one of ordinary skill in the art to have colored the polymeric resin binder covering the conductive film layer of carbon nanotubules in the filter of Glatkowski, as defined by Applicant's specification (Fig. 1, page 3, lines 24-30), for the purpose of providing a conductive color filter.

12. Applicant argues that the referenced embodiments on page 36 of Glatkowski recite use of virgin resin overcoats to form clear and colorless films, not a filter, and thus are not directed to a conductive filter.

Applicant is respectfully apprised that Glatkowski teaches that each nanotube film layer, where the nanotubes are preferably oriented in the plane of the film, forms a filter or polarizer, in light of the citation "a plurality of differentially-oriented nanotube film layers wherein each layer can be oriented and adjusted, thus forming filters or polarizers" (page 14, lines 19-24), wherein overcoating with a layer of polymeric resin then forms a conductive filter which has an electrically conducting side, and an electrically insulating side, the electrically insulating side being formed by a sufficiently thick layer of the polymeric resin binder (resulting film has a conductive surface without conductivity through the thickness, page 36, lines 1-5), as claimed by Applicant (claims 5-6).

13. Applicant argues that the referenced layer of ITO in an example of Glatkowski is cited as an inorganic over-coat layer alternative to an organic polymeric resin overcoat layer, not as an additional layer to be employed in combination with a polymeric resin overcoat material, and further not as an additional layer to be employed in combination with a colored polymeric resin binder layer.

Applicant is respectfully reminded that the single embodiment in Applicant's specification, Fig. 1, wherein the carbon nanotube conductors 14 are actually dispersed in the polymeric resin binder 16, is described by Applicant as a layer of carbon nanotube conductors 14 being covered by a colored polymeric resin binder 16 to hold

the carbon nanotube conductors 14 in place and to protect them (page 3, lines 24-30), as discussed above. Glatkowski teaches that the film containing nanotube dispersions (page 14, lines 25-27) may further comprise a polymeric material and a coloring agent (page 15, lines 1-6), and that the nanotube films themselves may be overcoated with a polymeric material (page 13, lines 16-17). As taught by Glatkowski, the presence of the nanotube conductors in the film provides a conductive filter (page 14, lines 19-24), and when combined with the presence of a coloring agent in the film, a conductive color filter is formed. Glatkowski teaches that a layer of indium tin oxide (page 13, lines 20-25), which is a transparent conductive electrode as defined by Applicant (original claim 7), can be laminated with the conductive filter (page 13, lines 20-25) for the purpose of utilizing the physical properties of the indium tin oxide.

14. Applicant's arguments regarding the valid use of the secondary references Chung, Jones, Boronson and Yamada, are directed against the valid use of Glatkowski as the primary reference, and the valid combination of Glatkowski, as evidenced by Ohtsu, which are addressed above.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon
Sow-Fun Hon
11/04/06

RENA DYE
SUPERVISORY PATENT EXAMINER
Tech Center 1700
11/9/06